

**KEY SWITCH DEVICE**

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Erfinder : MOCHIZUKI ISAO  
Anmelder : BROTHER IND LTD  
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(EPIDOS-INPADOC-normiert)  
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Klassifikationssymbol (EC) :  
Korrespondierende Patentschriften JP3311336B2

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**Bibliographische Daten**

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**PROBLEM TO BE SOLVED:** To provide a key switch device for making the keyboard thin without reducing the size of the key stroke that ensures the guidance of upward and downward movement of the key top, improves the key input motion, preventing the key input from interference, reduces the number of components, and facilitates the assembling process, thereby reducing the production cost.  
**SOLUTION:** A pair of gear link members 7 and 8 are arranged asymmetrically with almost the same channel shape viewed from the top. A toothed wheel 12a of the gear link member 7 is engaged by a toothed wheel 20a of the gear link member 8, while a toothed wheel 12b of the gear link member 7 is engaged with a toothed wheel 20b of the gear link member 8, so that the guide support member is obtained by assembling them into a square shape viewed from the top.

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Daten aus der **esp@cenet** Datenbank - - I2

【図4】本実施例によるキースwitch装置の押下時の側断面図である。

【図5】本実施例によるキースwitch装置のギャリンク部材の斜視図である。

【図6】本実施例によるキースwitch装置のホルダープレート部分の斜視図である。

【符号の説明】

- 1 キートップ  
2 a, 2 b, 3 a, 3 b 第1係止部  
6 案内支持部材  
7, 8 ギャリンク部材  
10 a, 10 b, 20 a, 20 b 基端部 (両側部分

の一部)

11 a, 11 b, 21 a, 21 b 基端部 (両側部分の一部)

26 ホルダープレート (ホルダ部材)

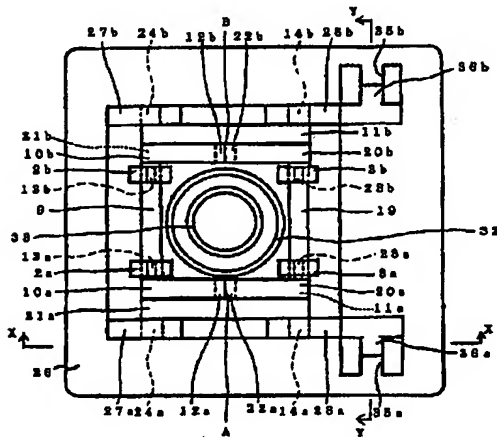
27 a, 27 b, 28 a, 28 b 第2係止部

31 フレキシブル回路基板 (スイッチング部材の一部)

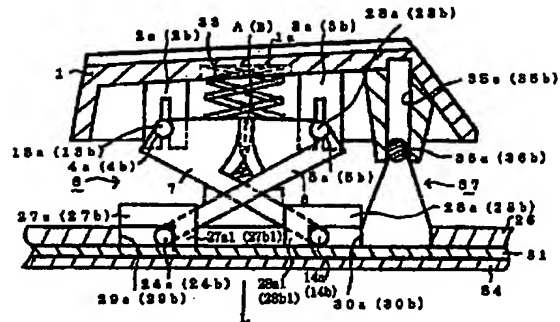
32 ラバースプリング (スイッチング部材の一部)

33 コイルスプリング (スイッチング部材の一部)

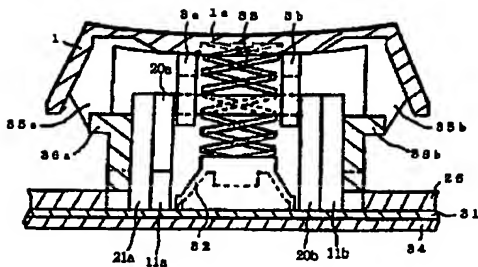
【図1】



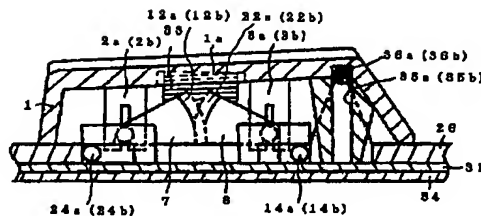
【図2】



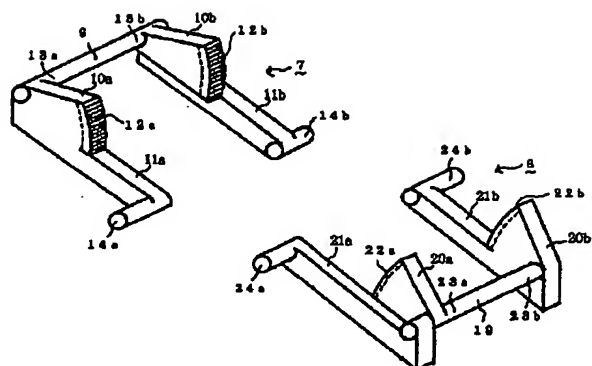
【図3】



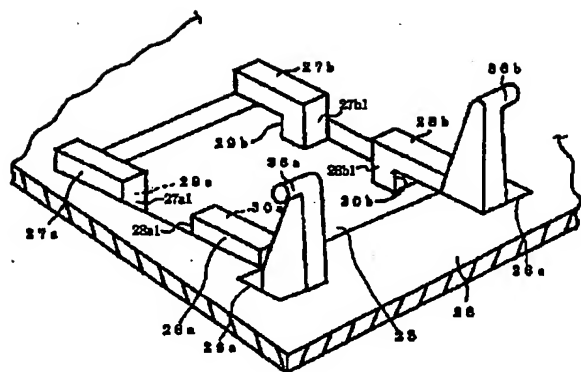
【図4】







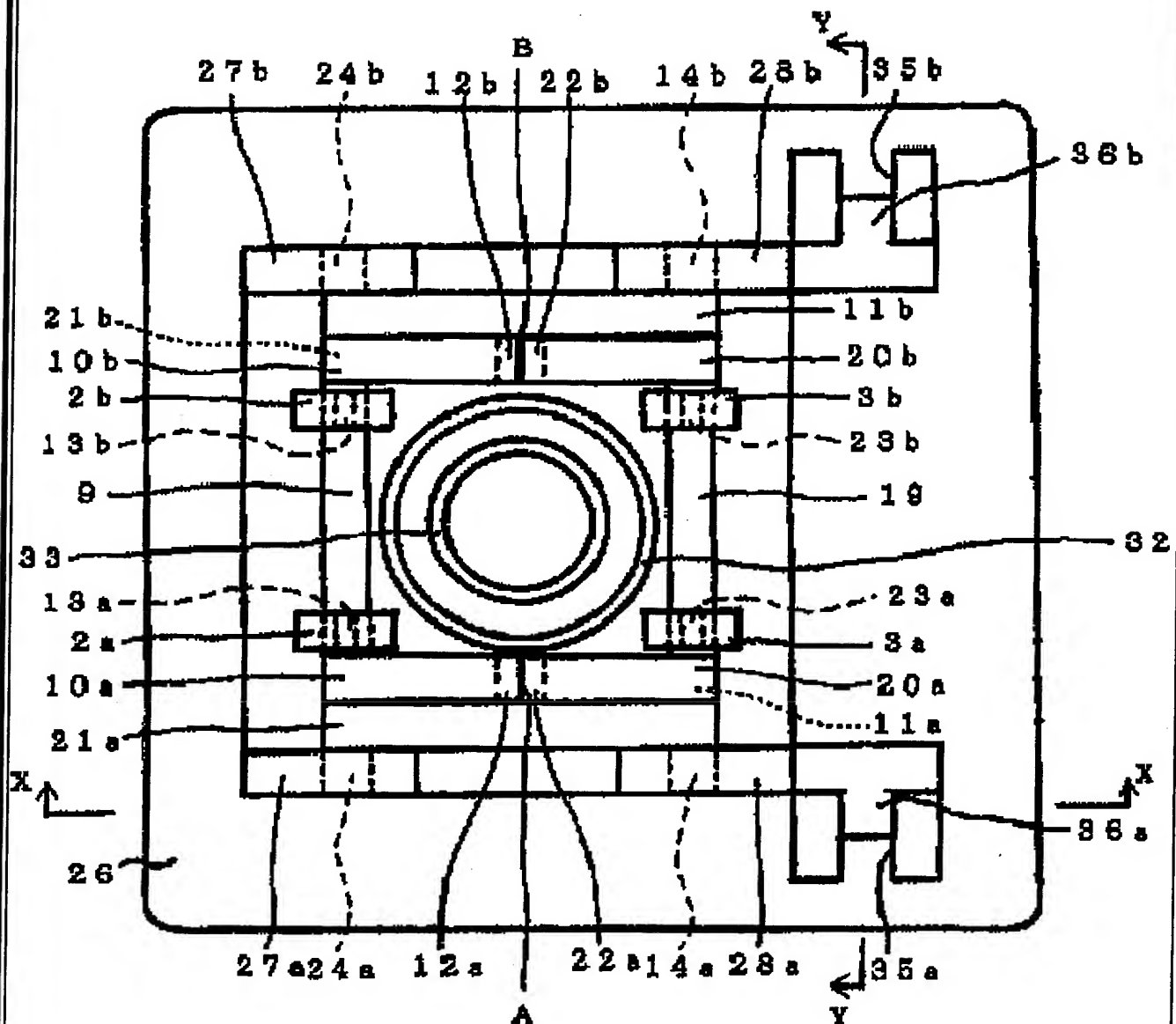
【図5】



【図6】



<b>Title</b>					
Key switch apparatus for thin keyboard of e.g. notebook type word processor, has key top guide support formed by engaging and combining gears of gear links in square shape					
<b>Patentee(s)</b>					
BROTHER KOGYO KK (BRER )					
<b>Inventor(s)</b>					
(No Data)					
<b>Abstract</b>					
JP-2001126582 A; NOVELTY - A guide support for the vertical motion of a key top is formed by engaging and combining the gear (12b) of one gear link with the gear (20b) of another gear link in square shape. The gear links are arranged in unsymmetrical U-shape form while engaging their respective gears (12a,20a).					
<b>Use/Advantage</b>					
USE - For thin keyboard of e.g. notebook type word processor, notebook type personal computer. ADVANTAGE - Reduces thickness of keyboard while maintaining size of key stroke. Ensures reliable key input and satisfactory operation of key input due to reliable guide support of key top's vertical motion. Ensures efficient and improved assembly operation with reduced manufacturing cost. DESCRIPTION OF DRAWING(S) - The figure is a perspective diagram showing the upper surface of the key switch apparatus. Gears of gear links 12a,20a,12b,20b					
<b>Derwent Class(es)</b>					
V03					
<b>Manual Codes</b>					
V03-C01A3					
<b>IPC</b>					
H01H-003/40 ; H01H-013/14					
<b>Priority</b>					
<b>Priority No.</b>	<b>Date</b>				
1992JP-0171603	04-Jun-1992				
2000JP-0298698	04-Jun-1992				
<b>Patent Family</b>					
<b>Patent No.</b>	<b>Facsimile</b>	<b>Date</b>	<b>Language</b>	<b>Pages</b>	<b>Derwent Week</b>
JP-2001126582 A	 	11-May-2001	-	008pp	200143
JP-3311336 B2	 	05-Aug-2002	-	008pp	200258
<b>Application</b>					
<b>Patent No.</b>	<b>Application No.</b>	<b>Date</b>			
JP-3311336 B2	1992JP-0171603	04-Jun-1992			
JP-3311336 B2	2000JP-0298698	04-Jun-1992			
JP-2001126582 A	1992JP-0171603	04-Jun-1992			
JP-2001126582 A	2000JP-0298698	04-Jun-1992			
<b>Designated States</b>					
<b>Patent No.</b>	<b>Countries</b>				
(No Data)	(No Data)				
<b>World Designated States</b>					
<b>Patent No.</b>	<b>Countries</b>				
(No Data)	(No Data)				
<b>Filing details</b>					
JP-3311336 Previous Publ. JP-2001126582					
Patent No.: JP-2001126582 A - Image No.:1 [Hi Res Image]					

**Accession Number**

2001-403167 / 200143

**Title Terms**

KEY SWITCH APPARATUS THIN KEYBOARD TYPE WORD PROCESSOR KEY TOP GUIDE SUPPORT  
FORMING ENGAGE COMBINATION GEAR GEAR LINK SQUARE SHAPE